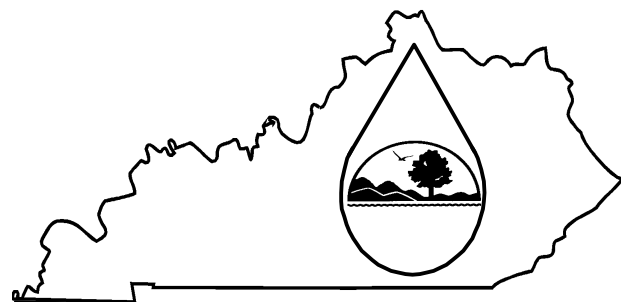


KPDES FORM A



KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT APPLICATION

A complete application consists of this form and Form 1.
For additional information, contact KPDES Branch (502) 564-3410.

I. FACILITY DESCRIPTION	AGENCY USE							
--------------------------------	-----------------------	--	--	--	--	--	--	--

A. Name of Facility Where Discharge Will Occur:	Owner of Facility:
Location - Number and Street or Other Identifier:	County:
City:	

B. Indicate if part of your discharge is into a municipal waste transport system under another responsible organization. Yes <input type="checkbox"/> (Continue) No <input type="checkbox"/> (Go to C)	
Name of organization receiving discharge:	
Address: (Number and Street):	City:
State:	Zip Code:
Name of Facility (waste treatment plant) which ultimately receives discharge:	
Give your average daily flow into the receiving facility in mgd: mgd	

C. Discharge (See instructions)

Discharge To	Number of Discharge Points	Total Volume Discharged (mgd)
Surface Water		
Surface Impoundment With No Effluent		
Underground Percolation		
Well (Injection)		
Other (Describe):		

D. Intermittent discharges (see instructions)

Number of Bypass Points:	Overflow Points:	Number of Seasonal Discharge Points:
--------------------------	------------------	--------------------------------------

FACILITY DESCRIPTION (Continued)

E. Indicate the type and length (in feet) of the collection system used by this facility. (See instructions)	
Collection System Type:	Length (feet):
F. Municipalities or Area Served (See instructions)	
NAME	ACTUAL POPULATION SERVED
Total population served:	

Total estimated average daily waste flow from all industrial sources: MGD

G. Maps and drawings (See instructions - Figure A and B)

H. Additional information (Attach additional sheets if needed)

II. BASIC DISCHARGE DESCRIPTION

A. Discharge Serial Number:	Discharge Name (if any)
Previous Discharge Serial Number (if any)	
B. Discharge Operating Dates: Beginning Date (yy/mm)	
If facility is scheduled to discontinue within the next five years give end date (year/month) and reason for discontinuing discharge:	
C. Specify type of discharge point (See instructions)	
D. Latitude and longitude of discharge point	
Latitude (degrees/minutes/seconds):	Longitude (degrees/minutes/seconds):
E. Name the waterway at the point of discharge (See instructions):	

II. BASIC DISCHARGE DESCRIPTION (continued)Complete Items F, G, or H as applicable: ☐ Not applicable

F. If discharge is from a bypass point:	WET WEATHER	DRY WEATHER
Check when bypass occurs:	<input type="checkbox"/>	<input type="checkbox"/>
Give the number of bypass incidents	per year	per year
Give the average duration of bypass	hours	hours
Give the average volume per incident	1,000 gallons	1,000 gallons

Give reasons why bypass occurs:

G. If discharge is from an overflow point:	WET WEATHER	DRY WEATHER
Check when overflow occurs	<input type="checkbox"/>	<input type="checkbox"/>
Give the number of overflow incidents:	per year	per year
Give average duration of overflow:	hours	hours
Give average volume per incident	1,000 gallons	1,000 gallons

H. If discharge is intermittent from a holding pond, lagoon, etc: ☐ Not applicable

Give the number of times this discharge occurs per year:	
Give the average volume per discharge occurrence:	(1,000 gallons)
Give the average duration of each discharge:	(days)
List month(s) when the discharge occurs:	

I. Describe treatment units which apply to this discharge:

Using the codes listed in Table I of the instructions, describe in order of occurrence the treatment units applied (see example with Table)

--

Describe the sludge handling and disposal methods. (Please indicate disposal site.)

--

J. Check if the following are currently available:

☐ Engineering Design Report ☐ Operation and Maintenance Manual

II. BASIC DISCHARGE DESCRIPTION (continued)**K. Plant design data**

Plant design flow:	mgd
Plant design 5-day BOD removal:	%
Plant design N removal:	%
Plant design P removal:	%
Plant design SS removal:	%
Plant began operation:	(year)
Plant last major revision:	(year)

K. Description of influent and effluent (see instructions)

PARAMETER AND CODE	INFLUENT	EFFLUENT					
	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
50050 Flow Million gallons per day							
00400 pH Units							
74028 Temperature (winter) °F							
74027 Temperature (summer) °F							
75054 Fecal Streptococci Bacteria Number/100 ml (Provide if available)							
74055 Fecal Coliform Bacteria Number/100 ml (Provide if available)							
74056 Total Coliform Bacteria Number/100 ml (Provide if available)							
00310 BOD mg/l							
00340 Chemical Oxygen Demand (COD) (Provide if available) OR 00685 Total Organic Carbon (TOC) (Provide if available)							
50060 Chlorine - Total Residual mg/l							
00500 Total Solids mg/l							
70300 Total Dissolved Solids mg/l							
00530 Total Suspended Solids mg/l							

II.L. BASIC DISCHARGE DESCRIPTION Description of influent and effluent (continued)

PARAMETER AND CODE	INFLUENT	EFFLUENT					
	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
00545 Settleable Matter (Residue) ml/l							
00610 Ammonia (asN)* mg/l							
00625 Kjeldahl Nitrogen* mg/l							
00615 Nitrite (as N)* mg/l							
00620 Nitrate (as N)* mg/l							
00665 Phosphorus Total (as P)* mg/l							
00300 Dissolved Oxygen (DO) mg/l							
01092 Zinc - Total mg/l							
00940 Chloride mg/l							
Hardness - Total (as CaCO ₃) mg/l							

* Provide if available

M. Additional wastewater characteristics (Check box next to each parameter if it is present in the effluent.)

PARAMETER (215)		PARAMETER (215)		PARAMETER (215)	
<input type="checkbox"/>	Bromide 71870	<input type="checkbox"/>	Cobalt 01037	<input type="checkbox"/>	Thallium 01059
<input type="checkbox"/>	Cyanide 00720	<input type="checkbox"/>	Chromium 01034	<input type="checkbox"/>	Titanium 01152
<input type="checkbox"/>	Fluoride 00951	<input type="checkbox"/>	Copper 01042	<input type="checkbox"/>	Tin 01102
<input type="checkbox"/>	Sulfide 00745	<input type="checkbox"/>	Iron 01045	<input type="checkbox"/>	Algicides* 74051
<input type="checkbox"/>	Aluminum 01105	<input type="checkbox"/>	Lead 01051	<input type="checkbox"/>	Chlorinated organic compounds* 74052
<input type="checkbox"/>	Antimony 01097	<input type="checkbox"/>	Manganese 01055	<input type="checkbox"/>	Oil and grease 00550
<input type="checkbox"/>	Arsenic 01002	<input type="checkbox"/>	Mercury 71900	<input type="checkbox"/>	Pesticides* 00550
<input type="checkbox"/>	Beryllium 01012	<input type="checkbox"/>	Molybdenum 01062	<input type="checkbox"/>	Phenols 32730
<input type="checkbox"/>	Barium 01007	<input type="checkbox"/>	Nickel 01067	<input type="checkbox"/>	Surfactants 38260
<input type="checkbox"/>	Boron 10122	<input type="checkbox"/>	Selenium 01147	<input type="checkbox"/>	Radioactivity* 74050
<input type="checkbox"/>	Cadmium 01027	<input type="checkbox"/>	Silver 01077		

* Provide specific compound and/or element in Part O of this application, if known.

Pesticides (Insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels, 2nd Edition*, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

II. BASIC DISCHARGE DESCRIPTION (Continued)

N. Is there an alternative power source for major pumping facility including those for collection system lift stations?

☐ Yes ☐ No

Is there an alarm for power or equipment failure? ☐ Yes ☐ No

0. Additional information:

[illegible]

III. SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION (See Instructions)

A. Improvements required:

1. List the discharge serial numbers, assigned in Item II, that are covered by this implementation schedule.

--	--	--	--	--

2. List the authority or authorities which ordered the improvements (See instructions).

3. Specify the 3-character code from Table II, General Action Description, that best describes the improvements required by the implementation schedule. Also list all the Specific Action, 3-character codes which describe in more detail the pollution abatement practices that the implementation schedule requires.

General Action Description			
Specific Action Description(s)			

B. Provide dates imposed by schedule and actual completion dates for implementation steps listed.

Implementation Step	Scheduled Completion (Year/Month/Day)	Actual Completion (Year/Month/Day)
Preliminary plan completion		
Final plan completion		
Financing complete and contract award		
Site acquisition		
Start of construction		
End of Construction		
Start of discharge		
Attainment of operational level		

TO BE COMPLETED FOR EACH MAJOR INDUSTRIAL CONTRIBUTOR

IV. INDUSTRIAL WASTE CONTRIBUTION TO MUNICIPAL SYSTEM (See Instructions)

A. Name of Major Contributing Facility:

Number and Street:

City, State, Zip Code:

County:

B. Primary Standard Industrial Classification Code:

C. Principal product or raw material (see instructions).

	Quantity	Units (See Table III)
Product		
Raw Material		

Brief description of production process:

D. Indicate volume of water discharged into the municipal system:

(gallons per day)

Is discharge:

☐ Continuous

☐ Intermittent

E. Is pretreatment provided prior to entering the municipal system?

☐ Yes

☐ No

F. Characteristics of wastewater (see instructions).

Parameter Name							
Parameter Number							
Value							
Parameter Name							
Parameter Number							
Value							

V. PRETREATMENT AND LOCAL LIMITS

1. Pretreatment Program. Does this facility have an approved pretreatment program?

☐ Yes (complete item 2 - 4) ☐ No (go to Section VI)

2. Is this facility required to establish local limits?

☐ Yes ☐ No

3. Are the local limits technically-based?

☐ Yes ☐ No

4. Has a technical evaluation of the need to revise this facility's local limits been completed?

☐ Yes ☐ No

If yes, attach a copy of the evaluation)

If no, a copy of the evaluation must be submitted within ninety (90) days of the effective date of your permit.

VI. BIOLOGICAL TEST DATA (BIOMONITORING)

1. Does the current KPDES permit require biological testing and reporting?

☐ Yes ☐ No (Complete Item 2)

2. Has biological testing been performed on the POTW effluent?

☐ Yes ☐ No

If yes, attach a copy of results and lab sheets.

(Note: POTWs with flows greater than or equal to 1.0 MGD or POTWs with an approved pretreatment program which receive industrial waste must submit biomonitoring results before the application is deemed complete.)

VII. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (Type or Print)

PHONE NO. (Area Code and Number)

SIGNATURE

DATE

**KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
FORM A -- INSTRUCTIONS**

Listed below are explanations of select Form A questions. If further information is needed concerning any question, please contact the Division of Water, KPDES Branch at (502) 564-3410.

I. FACILITY DESCRIPTION

C. Discharge

If the discharge is directly on to the land surface, use the category "Surface impoundment with no effluent" or "Underground percolation," whichever best describes your discharge. If the discharge is directly to a surface which drains into a waterway, use the category "Surface water."

D. Intermittent discharges

Indicate the number of bypasses and overflows that result in point discharges. (Item II of this form "BASIC DISCHARGE DESCRIPTION" must be completed for each bypass and overflow.)

E. Collection system

Indicate collection system type (e.g., separate storm, separate sanitary, or combined sanitary and storm).

F. Municipalities or area served

For each municipality or area served, enter the actual population served at the time of application. In the case of another sewer authority discharging into this facility, enter the name of that authority and the population it serves.

G. Maps and drawing

A schematic of water flow and a location map must be submitted with this application. All maps and drawings should be either on paper or other material suitable for reproduction. All discharge points should be identified with the discharge serial numbers used in Item II of this application. All sheets should include a title which includes applicant's name, facility location, date of drawing and designation of number of sheets of each diagram type such as "page __ of __."

II. BASIC DISCHARGE DESCRIPTION

- C. Type of discharge point**
Refer to Item I-C

- E. Name the waterway at the point of discharge**
Enter the name of the waterway as it is designated on published maps of the area. Whenever possible, refer to one of the U. S. Geological Survey map series. If this receiving waterway is unnamed, label it as such, and give the name of the first tributary which is named.

- I. Describe the treatment used in order of occurrence and list the applicable codes from Table I. Also, describe sludge handling and disposal methods. Please indicate disposal site.**

- L. Description of influent and effluent**
For each of the parameters listed, enter in the appropriate box the value or code-letter required. Values must be representative of the discharge during the twelve preceding months of operation or represent best engineering estimates for proposed discharges. For facilities that have not been in operation for one year, data reported should represent the existing period of record with a note to

that effect. Refer to Appendix A for preferred analytical method(s). Detailed instructions for completing particular columns are provided below. **Please report in the units specified.**

Column 1 -- Effluent, Annual Average Value

Supply the average of all daily values during the year for the influent before treatment.

Column 2 -- Effluent, Annual Average Value

Supply the average of all daily values during the year when discharge is expected to be (if a new discharge), or actually is operating. If a discharge occurs irregularly, the values supplied in this column should represent an average for the days the discharge actually occurs.

Column 3 -- Effluent, Lowest Monthly Average Value

Supply the lowest of the 12 monthly average values for the preceding year. The monthly average value is the arithmetic mean of the daily values in a one month period.

Column 4 -- Effluent, Highest Monthly Average Value

Supply the highest of the 12 monthly average values for the preceding year. The monthly average value, except for bacteria, is the arithmetic mean of the daily values in a one month period. The monthly average value for bacteria is the geometric mean of daily values in a one month period. This may be calculated as follows:

$$G.M._Y = \text{antilog } \frac{1}{n} \sum \log Y$$

where "n" is the number of observations (days) and "Y" is the daily value.

Column 5 -- Effluent, Frequency of Analysis (See discussion of analytical methods below)

Specify the frequency of analysis for each parameter as number of analyses per number of days (e.g., "3/7" means three analyses performed every 7 days). If continuous, enter "CONT." When analyses are conducted on more than one individual grab sample which are collected during the same day, the analysis frequency should reflect one analysis whose value is the average of the individual grab sample measurements.

Column 6 -- Effluent, Number of Analyses (see discussion of analytical methods below)

Specify the number of analyses performed (up to 365) during the previous 12 months of operation at the average frequency in column 5.

Column 7 -- Effluent, Sample Type

Specify sample type as follows:

1. "G" -- For grab sample (individual sample collected in less than 15 minutes).
2. "# of hours" -- For composite sample -- enter the average number of hours over which the composite sample was collected. Either the volume of each individual sample is directly proportional to discharge flow rates or the sampling interval (for constant-volume sample) is inversely proportional to the flow rates over the time period used to procure the composite.
3. "N/A" -- If "CONT." was entered in column 6.

Analytical Methods

Appendix A contains all parameters with the reporting levels, test descriptions and references. The parameter values can be determined either by use of one of the standard analytical methods as described in Table A or by methods previously approved by the EPA Regional Administrator or Division of Water. If the test used is not one shown in Table A, the test procedure should be referenced in Part O or on a separate sheet. If values are determined to be less than the detectable limit (as determined by referenced standard analytical techniques and/or instrument manufacturer's

literature), specify "LT" (value of detectable limit) in the appropriate space. For example, if the detectable limit is .005 mg/l and quantities of less than this were observed, specify "LT.005." Do not enter descriptions such as "NIL," "TRACE," "NEG," etc. for this purpose.

For values reported to be representative, it is recommended that they be used on daily composite samples (if applicable), taken over at least one week during a period of maximum flow, if possible. If samples are taken at a period of less than maximum flow, state in Part O the percent of maximum flow that was obtained during the sample period.

M. Additional wastewater characteristics

Indicate by an "X" in the appropriate box those chemical constituents known to be present in the effluent based on any previous analyses of this discharge. Those constituents for which no previous analyses have been performed need not be indicated.

III. SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

A. Improvements required

2. Authority or authorities which ordered the improvements (enter one or more of the following):

Locally Developed Plan--A schedule developed at the county, municipal, or federal facility level.

Areawide Plan -- A schedule developed by a metropolitan authority or other agency formed by local or municipal governments (e.g., Metropolitan Sewer District).

Basin Plan--A schedule developed by a metropolitan authority or other body having authority over a watershed area (e.g. Ohio River Basin Commission).

State Approved Implementation Schedule--A plan imposed to achieve compliance with State water quality standards for intrastate waters or by a permit or equivalent document issued by a State water pollution control agency.

Federally Approved Water Quality Standards Implementation Plan--A schedule imposed to achieve compliance with water quality standards approved by the Environmental Protection Agency or by its predecessors, the Federal Water Quality Administration and the Federal Water Pollution Control Administration.

Federal Enforcement Procedures for Actions--A schedule imposed by an enforcement conference held under Section 10(a) of the Federal Water Pollution Control Act prior to the date of enactment of FWPCA amendments of 1972.

State Enforcement Procedures for Action--A schedule imposed by an enforcement conference or action held under KRS 224.10-100.

State Court Order--A schedule imposed by an order of settlement, issued or approved by Kentucky Court of Law.

Federal Court Order--A schedule imposed by an order of settlement, issued or approved by a court of the United States.

IV. INDUSTRIAL WASTE CONTRIBUTION TO MUNICIPAL SYSTEM

Each municipal facility is required to complete a separate Item IV for each major industrial facility that discharges or plans to discharge wastes into the municipal system. (List all industry discharging wastewater to the municipal with SIC codes between 2000 and 3999.) This includes industrial wastes which are discharged into another collection and/or treatment system for which this permit application is being filed. It is the responsibility of the applicant to obtain the required information on any major industrial contributors to his/her facility, including those contributing by way of another system.

Actual data should be provided if available. If actual data is not immediately available, Item IV should be marked "Interim," and a best estimate should be provided with a statement indicating the amount of time required to provide the actual information.

A significant industrial user is considered to be one that has or could have significant impact on the municipal wastewater treatment facility receiving the waste or upon the quality of effluent from that treatment facility. Specifically, a significant industrial user is defined as one that (1) has a flow of 25,000 gallons or more per average work day; (2) has a flow greater than 5 percent of the total flow carried by the municipal system receiving the waste; or (3) has a toxic material in its discharge. It may be necessary to alter these administrative criteria in certain cases, such as, two or more contributing industries in combination can produce an undesirable effect on either the municipal facility or the quality of its effluent.

B. Primary Standard Industrial Classification Code

Using four-digit Standard Industrial Classification (SIC) codes, indicate the type of industrial facility described in Item IV that is discharging into the municipal system covered by this application. Standard Industrial Classification (SIC) code numbers and descriptions may be found in the 1987 edition of the "Standard Industrial Classification" prepared by the Executive Office of the President, Office of Management and Budget. This document is available from the U. S. Government Printing Office, Washington, D.C. Copies are also available for examination at the Kentucky Department for Environmental Protection and at most public libraries.

C. Principal product or raw material

Specify either the principal product or the principal raw material and the maximum quantity per day produced or consumed. Quantities are to be reported in the units of measurement given in Table III "Units of Measurement by SIC code (Industry)" for the particular SIC categories that are listed. Enter the letter-number code from the "Code" column in Table III for the units selected under "Units." Other SIC categories should use the units of measurement normally used by that industry.

F. Characteristics of wastewater

Indicate the characteristics of the wastewater from the contributing industry in terms of parameters that will adequately identify the waste such as BOD, COD, Cr, Zn, pH units, degrees Fahrenheit, etc. The characteristics should be indicative of the waste stream after any pretreatment is provided by the industrial facility, but prior to entering the municipal system. In addition to parameter names, give the five-digit parameter numbers specified in Appendix A. Report values in units specified in Appendix A.

APPENDIX A
STANDARD ANALYTICAL METHODS (INTERIM)

(For use with Form A, Item II, Part L and Item IV, Part F)

The following table is to be used as a guide in reporting the data concerning each parameter. The first column of each table,

"PARAMETER & UNITS" indicates the preferred units for reporting data for a given parameter. The second column, "METHOD" lists the preferred analytical method (if any) for determining the required parameter values. The next three columns, "REFERENCES" give the page numbers in standard reference works where a detailed description of the recommended analytical technique given under "METHOD" can be found. These standard references are:

1. Standard Methods for the Examination of Water and Wastewaters, 13th Edition, 1971, American Public Health Association, New York, NY 10019.
2. ASTM Standards, Part 23, Water; Atmospheric Analysis, 1972, American Society for Testing and Materials, Philadelphia, PA 19103.
3. EPA Methods for Chemical Analysis of Water and Wastes, April 1971, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, NERC, Cincinnati, Ohio 45268.

Copies of the publications are available from the above sources.

Data must be reported with an accuracy of at least two significant digits, i.e., values less than one (1) must be reported at least to the nearest .01, values between 1 and 10 to the nearest 0.1, values between 10 and 100 to the nearest 1.0, and so forth.

CHEMICAL PARAMETERS				
PARAMETER & UNITS	METHOD	REFERENCES		
		Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Alkalinity (as CaCO ₃)	Titration-Electrometric or Automated Method-Methyl Orange End Point	p. 370	p. 143	p.6 p.8
BOD 5 Day mg/liter 00310	Modified Winkler or Probe Method	p.489	p.618	p.15
Chemical Oxygen Demand (COD) mg/liter 00340	Dichromate Reflux	p.495	p.219	p.17
Total Solids mg/liter 00500	Gravimetric, 105°C.	p. 535	--	p.280
Total Dissolved (Filterable) Solids mg/liter 70300	Glass Fiber Filtration, 180°C.	--	--	p.275
Total Suspended (Non-Filterable) Solids mg/liter 00530	Glass Fiber Filtration, 103-105°C.	p.537	--	p.278
Total Volatile Solids mg/liter 00505	Gravimetric Method, 550°C.	p.536	--	p.282
Settleable Matter (Residue) ml/liter 00545	Imhoff Cone, by Volume	p.539	--	--
Ammonia (as N) mg/liter 00610	Distillation-Nesslerization or Automated Phenolate	--	--	p.134 p.141
Kjeldahl Nitrogen (as N) mg/liter 00625	Digestion-Distillation or Automated Digestion and Phenolate	p.469	--	p.149 p.157
Nitrate (as N) mg/liter 00620	Brucine Sulfate or Automated-Hydrazine or Cadmium Reduction	p.461	p.124	p.185 p.170 p.175
Total Phosphorus (as P) mg/liter 00665	Persulfate Digestion and Single Reagent or Manual Digestion and Automated Single Reagent or Stannous Chloride	p.526	--	p.246 p.235 p.259
Acidity (as CaCO ₃) mg/liter 00435	Volumetric-Color or Electrometric End Point	p.370	p.143	p.5
Total Organic Carbon (TOC) mg/liter 00435	Combustion-Infrared Method	p.257	p.702	p.221
Hardness-Total (as CaCO ₃) mg/liter 00900	EDTA Titration-Automated Colorimetric, or Atomic Absorption Spectrophotometer	p.179	p.169	p.76 p.78
Nitrite (as N) mg/liter 00615	Diazotization-Manual or Automated Colorimetric	p.468	p.228	p.195
Organic Nitrogen (as N) mg/liter 00605	Kjeldahl Nitrogen Minus Ammonia (N)	p.468	--	p.149
Ortho-Phosphate (as P) mg/liter 70507	Direct Single Reagent, Automated Colorimetric-Single Reagent or Stannous Chloride	p.532	p.42	p.235 p.246 p.259
Sulfate (as SO ₄) mg/liter 00945	Turbidimetric or Automated Colorimetric-Barium Chloranilate	p.334	p.52	p.286 p.288
Sulfide (as S) mg/liter 00745	Titrimetric-iodide, Methylene Blue Color Matching or Methylene Blue Colorimetric	p.551	--	p.294
Sulfite (as SO ₃) mg/liter 00740	Iodide-iodate Titration	p.337	p.261	--

TABLE A (Continued)

CHEMICAL PARAMETERS				
PARAMETER & UNITS	METHOD	REFERENCES		
		Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Bromide mg/liter 71870	Colorimetric	p.75	p.214	--
Chloride mg/liter 00940	Mercuric Nitrate or Automated Colorimetric-Ferric Thiocyanate	p.97	p.21	p.29 p.31
Cyanide mg/liter 00720	Distillation-Silver Nitrate Titration or Pyridine Pyrazolone Colorimetric	p.404	p.556	p.41
Fluoride mg/liter 00951	Distillation-SPADNS Automated Complexone or Electrode	p.171	p.191	p.64 p.66 p.72
Chlorine-Total Residual mg/liter 50060	Amperometric or Colorimetric	p.107	--	--
Oil and Grease mg/liter 00550	Liquid-Liquid Extraction	p.254	--	--
Phenols mg/liter 32730	Colorimetric, 4-AAP	p.502	p.445	p.232
Surfactants mg/liter 38260	Methylene Blue Procedure	p.559	p.619	p.131
Algicides* mg/liter 74051	Specify Method Used	--	--	--
Chlorinated Organic Compounds* (Except Pesticides) 74052	Specify Method Used	--	--	--
Pesticides* mg/liter 74053	Specify Method Used	--	--	--

* See Note 1 at end of table.

TOTAL METAL CONTENT				
PARAMETER & UNITS	METHOD	REFERENCES		
		Standard Methods 13th ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Aluminum-Total** mg/liter 01105	Atomic Absorption Spectrophotometer	p.57	--	p.98
Antimony-Total** mg/liter	Atomic Absorption Spectrophotometer	--	--	p.83
Arsenic-Total** mg/liter 01002	Silver Diethyldithiocarbamate or Atomic Absorption Spectrophotometer	p.62	--	p.13 p.99
Barium-Total** mg/liter 01007	Atomic Absorption Spectrophotometer	p.66	--	p.83
Beryllium-Total** mg/liter 01012	Aluminon or Atomic Absorption Spectrophotometer	p.67	--	p.83
Boron-Total** mg/liter 01022	Curcumin, Carmine or Potentiometric	p.69	--	p.83
Cadmium-Total** mg/liter 01027	Atomic Absorption Spectrophotometer or Colorimetric	p.422	p.692	p.101

** See Note 2 at end of table.

TABLE A
(Continued)

TOTAL METAL CONTENT				
PARAMETER & UNITS	METHOD	REFERENCES		
		Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Calcium-Total** mg/liter 00916	EDTA Titration or Atomic Absorption Spectrophotometer or Colorimetric	p.84	p.692	p.102
Chromium-Total** mg/liter 01034	Atomic Absorption Spectrophotometer or Colorimetric	p.426	p.692	p.104
Cobalt-Total** mg/liter 01037	Atomic Absorption Spectrophotometer	--	p.692	p.83
Copper-Total** mg/liter 01042	Atomic Absorption Spectrophotometer or Colorimetric	p.430	p.692	p.106
Iron-Total** mg/liter 01045	Atomic Absorption Spectrophotometer or Colorimetric	p.433	p.692	p.108
Lead-Total** mg/liter 01051	Atomic Absorption Spectrophotometer or Colorimetric	p.436	p.692	p.110
Magnesium-Total** mg/liter 00927	Atomic Absorption Spectrophotometer or Colorimetric	p.416	p.692	p.112
Manganese-Total** mg/liter 01055	Atomic Absorption Spectrophotometer	--	p.692	p.114
Mercury-Total** mg/liter 71900	Flameless Atomic Absorption Procedure. For updated Method, See JAWWA, 64, No. 1, pp. 20-25 (Jan. 1972)	--	--	p.121
Molybdenum-Total** mg/liter 01062	Atomic Absorption Spectrophotometer	--	--	p.83
Nickel-Total** mg/liter 01067	Absorption or Atomic Spectrophotometer	p.443	p.692	p.83
Potassium-Total** mg/liter 00937	Colorimetric, Flame Photometric or Atomic Absorption Spectrophotometer	p.285 p.283	p.326	p.115
Selenium-Total** mg/liter 01147	Colorimetric-Diaminobenzidine	p.296	--	p.271
Silver-Total** mg/liter 01077	Atomic Absorption Spectrophotometer	p.309	--	p.117
Sodium-Total** mg/liter 00929	Flame Photometric or Atomic Absorption Spectrophotometer	p.317	p.326	p.118
Thallium-Total** mg/liter 01059	Atomic Absorption Spectrophotometer	--	--	p.83
Tin-Total** mg/liter 01102	Atomic Absorption Spectrophotometer	--	--	p.83
Titanium-Total** mg/liter 01152	Atomic Absorption Spectrophotometer	--	--	p.83
Zinc-Total** mg/liter 01092	Colorimetric, or Atomic Absorption Spectrophotometer	p.444 p.211	p.692	p.120

TABLE A (Continued)

PHYSICAL AND BIOLOGICAL PARAMETERS				
PARAMETER & UNITS	METHOD	REFERENCES		
		Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Color Pt-Co units 00080	Platinum-Cobalt Visual	p.160	--	p.38
Specific Conductance micromhos/cm at 25°C 00095	Wheatstone Bridge	p.323	p.163	p.284
Turbidity Jackson units 00070	Turbidimeter	p.577	p.467	p.308
Fecal Streptococci Bacteria number/100 ml 74054	Specify Method Used	p.688	--	--
Coliform Bacteria, Fecal number/100 ml 74055	Specify Method Used	p.669 p.684	--	--
Coliform Bacteria, Total number/100 ml 74056	Specify Method Used	p.664 p.679	--	--

RADIOACTIVE PARAMETERS		
TYPE OF RADIATION	REFERENCES	
	Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972
Alpha-Total picocurie/liter 01501	p.598	p.509
Alpha Counting Error picocurie/liter 01502	p.598	p.512
Beta-Total picocurie/liter 03501	p.598	p.473
Beta Counting Error picocurie/liter 03502	p.598	p.478

Note 1: *Interim procedures for algicides, chlorinated organic compounds, and pesticides can be obtained from the Analytical Quality Control Laboratory, National Environmental Research Center, Cincinnati, Ohio 45268, or from the Regional Offices of the Environmental Protection Agency.

Note 2: **For the determination of total metals the sample is not filtered before processing. Choose a volume of sample appropriate for the expected level of metals. If much suspended material is present, as little as 50-100 ml of well-mixed sample will most probably be sufficient. (The sample volume required may also vary proportionally with the number of metals to be determined.)

Transfer a representative aliquot of the well-mixed sample to a Griffin beaker and add 3 ml of concentrated distilled HNO₃. Place the beaker on a hotplate and evaporate to dryness making certain that the sample does not boil. Cool the beaker and add another 3 ml portion of distilled concentrated HNO₃. Cover the beaker with a watch glass and return to the hotplate. Increase the temperature of the hotplate so that a gentle reflux action occurs. Continue heating, adding additional acid as necessary until the digestion is complete, generally indicated by a light-colored residue. Add sufficient distilled 1:1 HCl and again warm the beaker to dissolve the residue. Wash down the beaker wall and wash glass with distilled water and filter the sample to remove silicates and other insoluble material that could clog the atomizer. Adjust the volume to some pre-determined value based on the expected metal concentrations. The sample is now ready for analysis. Concentrations so determined shall be reported as "total." STORET parameter numbers for reporting this type of data have been assigned and are given for each metal.

TABLE I -- WASTE TREATMENT CODES -- MUNICIPAL
(For use with Form A, Item II, Part I)

The treatment operations shown in this table are, in general, arranged in the order in which they normally occur during a sewage disposal cycle. Select those which apply to the system being reported and enter the codes in Item II, Part I in the sequence in which they occur. Where parallel or alternate operations are involved, list the codes one after the other, but enclose all of them in slashes. Example: Where plant influent is initially screened and then routed through two primary settling tanks emptying into a single trickling filter and single sludge bed, the treatment process would be coded as follows: /S,C,C,FT,B/.

In most instances, each major operation is designated by a single letter. To allow more specific definition of complex operations, one or two letters have been added to the basic codes showing variations in processes or techniques. For example, the basic code for filtering operation is "F," to show that it is a sand filter, and "S" is added to make the code "FS." It is further defined to show an intermittent sand filter as "FSI." Record the codes which most clearly define your plant operations.

J	Equalization	LP	Settling
JS	Surge Tank	LH	Holding or detention
S	Screens	LT	Emergency storage only
SC	Comminutor (grinding of sewage stream)	LO	Stabilization
M	Metering	LA	Aeration provided
G	Grit chamber	D	Digester, separate sludge
GA	Aerated grit chambers	DN	Anaerobic
O	Grease removal and skimming tanks not incidental to settling tanks	DA	Mechanical aeration provided (aerobic digestion)
OA	Aerated tank (diffused air)	DD	Diffused aeration provided (aerobic digestion)
E	Pretreatment	B	Sludge drying beds
EA	By aeration	H	Sludge storage tanks (not second stage digestion units)
EG	By chlorine gas	T	Sludge thickener
EH	By hypochlorite	TA	Air flotation
EZ	By ozonation	V	Mechanical sludge dewatering
ET	By temperature control	VC	Centrifuge
EO	By other	VV	Rotary vacuum filter
C	Primary settling tanks and holding tanks	VP	Press
R	Intermediate settling tanks (include only if designated for use as part of other than additional treatment processes)	VH	Heat treatment
AS	Activated sludge treatment	Z	Sludge conditioning
ASN	Conventional (approximately 4 to 8 hours of aeration with approximately 25 percent sludge return)	ZY	Elutriation
ASA	High rate aeration (less than 4 hours aeration)	W	Additional treatment
AST	Tapered aeration (variable aeration along length of tank)	WH	Heavy metals removal
ASS	Step aeration	WP	Phosphorus removal
ASP	Plug flow	WS	Suspended solids removal
ASR	Completely mixed step aeration and sludge return	WA	Carbon adsorption
ASG	Stage aeration including intermediate settling	WB	Breakpoint chlorination
ASC	Contact stabilization (provides aeration period less than 2 hours in contact tank)	WC	Chemical coagulation and sedimentation
ASE	Extended aeration (greater than 24 hours)	WD	Distillation
ASO	Pure oxygen used (80 percent +)	WE	Electrical processes
AP	Treatment by plain aeration	WEC	Electrochemical
APC	Contact aeration (fixed media, i.e., contact plates or frames)	WED	Electrodialysis
APP	Plain aeration (no sludge return)	EG	Evaporation
APO	Oxidation ditch	WF	Filtration
F	Filters	WK	Foaming
FC	Contact beds including dosing siphons	WI	Ion exchange
FS	Sand filter	WJ	Dissolved air flotation
FSI	Intermittent sand filters	WL	Polishing lagoons only
FSR	Rapid sand filters or other sand straining including subsurface	WM	Microscreening
FO	Roughing filters	WN	Nitrogen removal
FT	Trickling filters	WNS	Ammonia stripping
FTH	High rate	WNA	Biological nitrification 1 stage
FTL	Low rate	WNB	Biological nitrification 2 stage
K	Intermediate treatment (include only if designed for use as part of another additional treatment process)	WNB	Denitrification by anaerobic digestion and packed columns
KG	Coagulation	WND	Denitrification by anaerobic digestion and suspended growth chamber
KF	Flocculation	WNC	Denitrification by anaerobic digestion and packed columns
N	Final settling tanks	WX	Chemical oxidation
P	Disinfection	WU	Neutralization
PG	By chlorine gas	WR	Reverse osmosis
PH	By hypochlorite	WV	Solvent extraction
PO	By ozone	X	Sludge disposal
I	Application of wastewater treatment facility effluents to land	XB	Barged to sea
IC	Cultivated soils used to produce crops for consumption by animals or man	XD	Used for fertilizer
IA	Sprays used	XF	Burned for fuel
IS	Subsurface application	XI	Incinerated
L	Lagoons or ponds	XN	Used for landfill
LE	Evaporation (no discharge)	XR	Land reclamation
LS	Seepage (no discharge)	XO	Wet air oxidation

TABLE II
FACILITY REQUIREMENT CODES
(For use with Form A, Item III, Part A(3))

KEY WORD

General action description:

New facility	NEW
Modification (no increase in capacity or treatment)	MOD
Increase in capacity only	INC
Increase in treatment level only	INT
Increase in both capacity and treatment level	ICT

Specific action description:

Primary	PRI
Secondary.....	SEC
Tertiary	TER
Polishing lagoon	PLA
Phosphorus removal	PHO
Nitrogen removal	NIT
Organic removal	ROR
Disinfection.....	DIS
Sludge processing	SLP
Sludge disposal	SLD
Outfall	OUT
Sanitary intercepting sewer	SIN
Sanitary collector sewer	CSE
Pumping station	IPU
Force main	FUM
Infiltration/inflow	INI
Combined sewer connection	CSC

TABLE III -- UNITS OF MEASUREMENT BY SIC CODE (INDUSTRY)
(For use with Form A, Item IV, Part C)

SIC Code(s)	Code	Units of Measurement	Industry
201;2077	A-1	Pound live weight killed (meatpacking in slaughterhouse or packinghouse; poultry processing).	Meat products
	A-2	Pound product (slaughtering and rendering; processing).	
	A-3	Pound raw material (rendering in offsite plant)	
202;5143	B-1	1,000 lb milk equivalent	Dairy products
2033;2034;2037;2038	C-1	Ton raw material	Canned and preserved fruits and vegetables
204	D-1	1,000 bu processed	Grain mill products
2061	E-1	Ton sugar cane processed	Raw cane sugar
2062	E-2	Ton raw sugar processed	Cane sugar refining
2063	E-3	Ton beets sliced	Beet sugar
2077 (see SIC 201)			
2084	F-1	Ton grapes pressed	Wines, brandy & brandy spirits
	F-2	1,000 gal wine (table wine, for process season only)	
2085	F-3	1,000 bu grain processed	Distilled liquor, except brandy
2086	F-4	1,000 standard cases	Bottled & canned soft drinks
2091; 2092	G-1	Ton raw material	Seafoods
22	H-1	1,000 lb raw material	Textile mill products
	H-2	or 1,000 lb product	
2421	I-1	1,000 fbm	Sawmills and planing mills
2435; 2436	I-2	1,000 ft ² on three-eighths inch basis	Veneer and plywood
2491	I-3	1,000 ft ² treated	Wood preserving
2492	I-4	1,000 ft ² on a three-fourths inch basis	Particle board
26	J-1	Ton product	Paper and allied products
2812;2816;2819	K-1	Ton product	Inorganic chemicals
2821;2823;2824;2891;3079	L-1	1,000 lb product	Plastic materials and synthetics industry
2822	M-1	1,000 lb rubber produced	Synthetic rubber (vulcanizable elastomers)
283	N-1	1,000 lb raw material	Drugs and pharmaceuticals
2841	O-1	1,000 lb product	Soaps and detergents
	O-2	or 1,000 gal product	
2856-2869	P-1	1,000 lb product	Organic chemicals
2873;2874;2875	Q-1	1,000 ton product	Fertilizer industry
2879	R-1	1,000 lb product	Agricultural chemical and pesticides
2891 (See SIC 2821)			
2911	S-1	1,000 bbl crude or partially refined feed stock (stream day)	Petroleum refining
3011;3021;3031;3041;3069	T-1	1,000 lb raw material	Rubber products
3111	U-1	1,000 lb green salted hides or pickled skins	Leather tanning and finishing
3211;3231	V-1	1,000 ton product	Flat glass & glass products made from purchased glass

TABLE III -- UNITS OF MEASUREMENT BY SIC CODE (INDUSTRY) (Continued)
(For use with Form A, Item IV, Part C)

SIC Code(s)	Code	Units of Measurement	Industry
	V-2	or 1,000 ft ² mirrored surface (for mirrored glass only)	
3241	V-3	1,000 bbl product	Hydraulic cement
327	V-4	1,000 ton product	Concrete, gypsum, and plaster products
3292	V-5	1,000 ton asbestos used	Asbestos products
331	W-1	Ton dry coal	Coke making
	W-2	Ton hot metal	Blast furnaces
	W-3	Ton liquid steel	Steelworks
	W-4	Ton hot-formed steel	Hotforming
	W-5	Ton processed steel	Rolling and finishing mills
332	W-6	Ton metal cast	Iron and steel foundries
333	X-1	1,000 lb metal product	Primary smelting and refining of nonferrous metals
334	X-2	1,000 lb metal product	Secondary smelting and extruding of nonferrous metals
335	X-3	1,000 lb metal processed	Rolling, drawing, and extruding of nonferrous metals
336	X-4	1,000 lb metal cast	Nonferrous foundries
3465;3711;3714	Y-1	Unit production	Automobile manufacturing
	Y-2	or square feet	
4911;4931	Z-1	1,000 MWd generated	Electric power services
4961	Z-2	1 million lb steam produced	Steam supply